

predetermined action of the player, and wherein the predetermined condition includes detection of the predetermined action.

6. The apparatus according to claim 4, further comprising visual axis detection means for detecting a visual axis direction of the player, and wherein the predetermined condition includes the detected visual axis direction, and the change or deformation includes a change or deformation which allows another player to recognize the visual axis direction of the player.

7. The apparatus according to claim 4, wherein the condition is the location/posture of the predetermined portion.

8. The apparatus according to claim 4, further comprising location detection means for detecting location information of individual players, and visual axis detection means for detecting visual axis directions of the individual players, and wherein the predetermined condition includes a relationship between the location information and visual axis directions of the individual players.

9. A mixed reality apparatus comprising:
a player processor, which is provided to each player, and includes

location information detection means for detecting location information of a player,

action detection means for detecting a predetermined action of the player,

image generation means for generating a mixed reality space on the basis of information that pertains to another player, information that pertains to a real space, and information required for generating a virtual space image, and

display means for making the player visually recognize the mixed reality space; and

10 a controller to which a plurality of player processors are connected, and which has means for managing and controlling the mixed reality space, and distributes player information including the location information and predetermined action detection information detected by each of the connected player processors, information that is registered in advance and pertains to the real space, and information required for generating the virtual space image to at least the player processors other than the player processor as a source of the player information.

20 10. A mixed reality presentation method for allowing a player to experience mixed reality by making the player visually confirm a mixed reality space obtained by mixing a real space and virtual space, comprising:

the detection step of detecting a location/posture of a predetermined portion of the player; and

the virtual space image generation step of rendering a virtual object to be superposed on the predetermined portion on the basis of the location/posture of the predetermined portion detected in the detection step, and generating a virtual space image.

10 11. The method according to claim 10, wherein the predetermined portion includes a portion where the player wears a device for experiencing the mixed reality space.

12. The method according to claim 11, wherein the device is a head-mounted display device.

13. The method according to claim 10, wherein the virtual space image generation step includes the step of changing or deforming the virtual object to be superposed on the predetermined portion in accordance with a predetermined condition.

14. The method according to claim 13, further comprising the action detection step of detecting a predetermined action of the player, and wherein the predetermined condition includes detection of the predetermined action.

15. The method according to claim 13, further comprising the visual axis detection step of detecting a visual axis direction of the player, and wherein the predetermined condition includes the detected visual axis direction, and the change or deformation includes a change or deformation which allows another player to recognize the visual axis direction of the player.

16. The method according to claim 13, wherein the condition is the location/posture of the predetermined portion.

17. The method according to claim 13, further comprising the location detection step of detecting location information of individual players, and the visual axis detection step of detecting visual axis directions of the individual players, and wherein the predetermined condition includes a relationship between the location information and visual axis directions of the individual players.

18. A mixed reality presentation method comprising:
the player processing step for each player, and which includes

the location information detection step of detecting location information of a player,
the action detection step of detecting a predetermined action of the player,

the image generation step of generating a mixed reality space on the basis of information that pertains to another player, information that pertains to a real space, and information required for generating a
5 virtual space image, and

the display step of making the player visually recognize the mixed reality space; and

the control step which has the step of managing and controlling the mixed reality space, and
10 distributes player information including the location information and predetermined action detection information detected in the player processing step, information that is registered in advance and pertains to the real space, and information required for
15 generating the virtual space image to at least the player processing step other than the player processing step as a source of the player information.

19. A storage medium which stores a mixed reality presentation program for allowing a player to
20 experience mixed reality by making the player visually confirm a mixed reality space obtained by mixing a real space and virtual space, having:

the detection program step of detecting a location/posture of a predetermined portion of the
25 player; and

the virtual space image generation program step
of rendering a virtual object to be superposed on the
predetermined portion on the basis of the
location/posture of the predetermined portion detected
5 in the detection step, and generating a virtual space
image.

20. A storage medium storing at least one of:

a player processing program for each player, and
which includes

10 the location information detection program step
of detecting location information of a player,

the action detection program step of detecting a
predetermined action of the player,

15 the image generation program step of generating a
mixed reality space on the basis of information that
pertains to another player, information that pertains
to a real space, and information required for
generating a virtual space image, and

20 the display program step of making the player
visually recognize the mixed reality space; and

a control program which has the program step of
managing and controlling the mixed reality space, and
distributes player information including the location
information and predetermined action detection
25 information detected in the player processing program
step, information that is registered in advance and

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pertains to the real space, and information required for generating the virtual space image to at least the player processing program step other than the player processing program step as a source of the player
5 information.

21. A pointer display for pointing an arbitrary location in a mixed reality space expressed by mixing a real space and virtual space,

wherein said pointer display in a mixed reality
10 space is made up of not less than n (n is an integer not less than 2) parallel lines in a virtual space.

22. The pointer display according to claim 21, wherein when n is not less than 3, the not less than n parallel lines are located at vertices of a regular
15 n -sided polygon in a plane that perpendicularly crosses the not less than n parallel lines.

23. The pointer display according to claim 21, wherein a length of the n parallel lines and a spacing between two neighboring parallel lines are defined to
20 be values determined by a size of the mixed reality space.

24. The pointer display according to claim 21, wherein a length of the n parallel lines and a spacing between two neighboring parallel lines are defined to
25 be visually recognized in perspective in the mixed reality space.

25. The pointer display according to claim 21, wherein a start point of said pointer display is a predetermined portion of a player who visually recognizes the mixed reality space.

5 26. The pointer display according to claim 21, wherein an end point of said pointer display is a real or virtual object.

27. The pointer display according to claim 25, wherein the predetermined portion is a hand.

10 28. The pointer display according to claim 25, wherein said pointer display is displayed on the predetermined portion to be superposed on another virtual object.

29. The pointer display according to claim 25, wherein said pointer display is turned on/off in accordance with an action of the predetermined portion.

30. The pointer display according to claim 25, wherein said pointer display is turned on/off by turning on/off switch means.

20 31. The pointer display according to claim 21, wherein said pointer display has scale marks at predetermined intervals.

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25 ~~32. A pointer display method for making a pointer display that points an arbitrary location in a mixed reality space expressed by mixing a real space and virtual space,~~

wherein the pointer display is made by a virtual object which is made up of not less than n (n is an integer not less than 2) parallel lines having substantially the same lengths.

5 33. The method according to claim 32, wherein when n is not less than 3, the not less than n parallel lines are located at vertices of a regular n -sided polygon in a plane that perpendicularly crosses the not less than n parallel lines.

10 34. The method according to claim 32, wherein a length of the n parallel lines and a spacing between two neighboring parallel lines are defined to be values determined by a size of the mixed reality space.

15 35. The method according to claim 32, wherein a length of the n parallel lines and a spacing between two neighboring parallel lines are defined to be visually recognized with a distance in the mixed reality space.

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a2 20 36. ~~The method according to claim 32, wherein a start point of the pointer display is a predetermined portion of a player who visually recognizes the mixed reality space.~~

37. The method according to claim 32, wherein an end point of the pointer display is a real or virtual
25 object.

38. The method according to claim 34, wherein the predetermined portion is a hand,

39. ~~The method according to claim 36, wherein the predetermined portion is displayed at the start point to be superposed on another virtual object.~~

40. The method according to claim 36, wherein the pointer display is turned on/off in accordance with an action of the predetermined portion.

41. ~~The method according to claim 32, wherein scale marks are displayed at predetermined intervals.~~

42. A mixed reality apparatus using a pointer display of claim 21.

43. A storage medium which stores a pointer display method of claim 32 as a program which can be executed by a computer.

44. ~~A mixed reality apparatus using a pointer display method of claim 32.~~